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PATENT

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Amendment in Reply to Office Action mailed on August 22, 2006

IN THE DRAWING

Please replace FIGs 1 and 4 with the enclosed replacement FIGs
1 and 4.

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REMARKS

This Amendment is being filed in response to the Office Action mailed August 22, 2006, which has been reviewed and carefully considered. Reconsideration and allowance of the present application in view of the amendments made above and the remarks to follow are respectfully requested.

At the outset, it is respectfully pointed out that, on page 1 of the Office Action, box 3 is incorrectly checked indicating that "this application is in condition for allowance except for formal matters, prosecution as to the merits is closed." It is believed that box 3 is incorrectly checked in view of the various formal rejections included in the body of the Office Action. Commensurately, the time period to reply to the Office Action noted on the first page as being 2 months is also believed to be in error (and should have been 3 months). Nevertheless, the present Amendment is being filed within the 2-month period noted on page 1 of the Office Action.

In the Office Action, it is indicated that the information disclosure statement (IDS) mailed on January 19, 2006, listed an

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article by M. Steinbuch, "Repetitive Control for Systems with Uncertain Period-Time," Automatica In Press 09/04/2002, pp 1-7. However, the Examiner alleged that a copy of this article was not included with the IDS, and required a copy. Applicant greatfully thanks the Examiner for pointing out that the article was not received, a copy of which is enclosed.

By means of the present amendment, the specification has been amended for better clarity.

In the Office Action, the Examiner noted that FIG 1 should be labeled "Prior Art". In response, FIGs 1 and 4 have been amended in accordance with the Examiner's suggestion and for conformance with the specification such as page 2, lines 18 and 23-25. Applicant respectfully requests approval of the enclosed proposed drawing changes.

In the Office Action, the Examiner reminded the Applicant of the proper language and format for the Abstract. In response, the current Abstract has been deleted and substituted with the enclosed New Abstract which better conforms to U.S. practice.

In the Office Action, claims 1-2 are rejected under 35 U.S.C. §112, second paragraph as allegedly indefinite. Without agreeing

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with the Examiner, and in the interest of advancing prosecution, claims 1-2 have been amended to remove the informality noted by the Examiner. It is respectfully submitted that the rejection of claims 1-2 has been overcome and an indication as such is respectfully requested.

In the Office Action, claims 1-2 are rejected under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the enablement requirement. It is respectfully submitted that the specification and drawings provide ample support and sufficient description, as well as fully enable claims 1-2, in such a way as to reasonably convey to one skilled in the relevant art how to make and/or use the present invention without any undue experimentation.

It is respectfully submitted that it would be a trivial matter for a person skilled in the art to make and/or use the claimed invention defined by the claims 1-2, where one embodiment is shown in FIG 2. Clearly one skilled in the art would have no trouble implementing the diagram shown in FIG 2, where a FIFO memory buffer with $N/2$ taps is fed by, or receives, a signal having a period of NT , N being an integer and T being a time period. The output of the buffer is fed back to its input through a subtractor, thus

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providing negative feedback. The output of the buffer is also multiplied by a scalar, such as $-1/2$. As described on page 3, lines 2-4, the scalar ($-1/2$) is included at the output of the loop shown in FIG 2 in order to adjust the gain and phase of the output signal, so that the proposed loop of FIG 2 matches the gain and phase of a classical memory loop shown in FIG 1.

Clearly, the specification including the figures comply with the written description and enablement requirement, and reasonably convey that the inventor, at the time of the application was filed had possession of the claimed invention, as well as reasonably convey to one skilled in the relevant art how to make and/or use the present invention without any undue experimentation. Accordingly, withdrawal of this rejection under 35 U.S.C. §112, first paragraph is respectfully requested, and allowance of claims 12-18 is respectfully requested.

In the Office Action, claim 1 is rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,740,090 (Steinbuch). Claim 2 is rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 6,765,848 (Faucett) in view of Steinbuch. It is respectfully submitted that claims 1-2

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are patentable over Steinbuch and Faucett for at least the following reasons.

Steinbuch is directed to a repetitive control system with filters composed of delay circuits and having parameters resulting in a very high loop gain for only specific frequencies.

It is respectfully submitted that Steinbuch does not teach or suggest the present invention as recited in independent claims 1-2, where amongst other patentable elements, require (illustrative emphasis provided):

a memory loop fed with a periodic signal of period NT and in which the memory size includes N/2 memory elements, the feedback connection is negative and a factor of $-\frac{1}{N}$ is provided at the output of the memory loop, wherein N is an integer and T is period of time.

These features are nowhere taught or suggested in Steinbuch. Faucett is cited to allegedly show other features and does not remedy the deficiencies of Steinbuch. Accordingly, it is respectfully submitted that independent claims 1-2 are allowable, and allowance thereof is respectfully requested.

In addition, Applicants deny any statement, position or averment of the Examiner that is not specifically addressed by the

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foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicants reserve the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required for entrance of the accompanying amendment, they may be charged to Applicants' representatives Deposit Account No. 50-3649. In addition, please credit any overpayments related to any fees paid in connection with the accompanying amendment to Deposit Account No. 50-3649.

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In view of the above, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

By 
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Attorney for Applicant(s)
October 23, 2006

Enclosure: Replacement drawing sheets (2 sheet2 including
FIGs 1 and 4)
New Abstract
Steinbuch Article entitled "Repetitive Control for
Systems with Uncertain Period-Time" (7 pages)

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